UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ART UNIT	PAPER NUMBER
2168	

DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/684,313	MASON, ZACHARY J.
	Examiner	Art Unit
	Dangelino N. Gortayo	2168

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>17 July 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-16</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-16</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/17/2006</u>.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

1.   This Office Action is response to Applicants' Amendment filed 7/17/2006.

2.   Claims 1-16 are pending in this application.

Information Disclosure Statement

3.   An initialed and dated copy of Applicant's IDS form 1449, filed 7/17/2006, is

attached to the instant Office action.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

5.   Claims 11-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Ford

et al. ("Ford" US Patent 6,963,867 B2).

As per claim 11, Ford teaches "A method of distributing credit for a selection

event among the nodes of a browse tree," (see Abstract) "the method comprising:

determining a total amount of credit to be distributed for the selection event in which a

user selected an item within the browse tree;" (column 18 lines 24-33, wherein different

actions by the user are used to determine popularity score) "identifying each ancestor

node of the selected item within the browse tree;" (column 20 lines 11-21 and column

21 lines 33-43, wherein items are in categories, with a top level category) "dividing said

total amount of credit by the number of ancestor nodes of the selected item to

determine an amount of credit per ancestor to be distributed for the selection event;"

(column 22 lines 49-57, wherein the score is divided by number of items that match a

search within the category) "and assigning said amount of credit per ancestor to the

ancestor nodes of the selected item within the browse tree." (column 23 lines 14-30,

wherein the category popularity score is computed)

As per claim 12, Ford teaches "said total amount of credit is the same for all

selection events." (column 18 lines 12-23)

As per claim 13, Ford teaches "said total amount of credit varies based on the

nature of the selection event." (column 18 lines 33-38)

As per claim 14, Ford teaches "the selection event comprises viewing an item

and said total amount of credit varies based on the amount of time spent viewing the

item." (column 18 lines 26-28)

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-10 and 15-16 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ortega et al. ("Ortega" US Patent 6,606,619 B2) in view of Herz

("Herz" US Patent 6,460,036 B1).

As per claim 1, Ortega teaches "A computer-implemented method of analyzing

browse activity data of users of a database access system,"(see Abstract) "the method

comprising: providing a browse tree in which items represented within a database are

arranged within item categories over multiple levels of item categories;" (Figure 1B and

column 4 lines 52-61, wherein a browse tree of books is provided) "assigning individual

user history scores to specific categories of the browse tree based at least in-part on an

item selection history of a user, wherein the individual user history scores represent the

user's predicted affinities for the corresponding item categories;" (column 10 lines 32-

45, wherein individual user history scores are compiled) "assigning collective user

history scores to specific categories of the browse tree based at least in-part on item

selection histories of a population of users, wherein the collective user history scores

represent the predicted affinities of the user population for the corresponding item

categories;" (column 10 line 46 – column 11 line 2, wherein scores are based on the

collective actions of the community). Ortega does not teach "and evaluating differences

between the individual user history scores and the collective user history scores to

generate a relative preference profile for the user, wherein the relative preference profile

comprises relative preference scores for specific item categories, said relative

preference scores reflecting a degree to which the user's predicted affinity for a

category differs from the predicted affinity of the user population for that category."

Herz teaches ""and evaluating differences between the individual user history

scores and the collective user history scores to generate a relative preference profile for

the user, wherein the relative preference profile comprises relative preference scores for

specific item categories, said relative preference scores reflecting a degree to which the

user's predicted affinity for a category differs from the predicted affinity of the user

population for that category." (Figure 12 reference 1205, column 18 lines 49-55, column

19 line 17 – column 20 line 55, wherein a target object score for a user based on the

selected user feedback and relevant feedback from all users, based on the object's

similarity to other objects and the target's preferences based on other user's

preferences). It would have been obvious at the time of the invention for one of ordinary

skill in the art to combine Ortega's method of identifying an recommending nodes in a

browse tree based on previous historical actions with Herz's method of calculating

interest in an object based on a user's history and relevant feedback from all users of

the system. This gives the advantage of a recommendation system better able to

recommend relevant items based on user's personal history and a collective history.

The motivation for doing so would be to improve upon a recommendation system to be

more precise and comprehensive in representing a user's taste. (column 2 lines 16-28)

As per claim 4, Ortega teaches "evaluating differences between the individual

user history scores and the collective user history scores comprises calculating at least

one of a relative entropy function, a dot product function, or a sum of squares function of

the individual user history scores relative to the collective user history scores" (column

15 line 55 – column 16 line 4, wherein the distribution between the user and collective

scores are found, equivalent to a relative entropy function)

As per claim 5, <u>Ortega</u> teaches "providing personalized item recommendations to

the user based at least in-part on the relative preference profile." (column 7 lines 44-48,

wherein items are recommended based on the scores)

As per claim 6, <u>Ortega</u> teaches "providing personalized category

recommendations to the user based at least in-part on the relative preference profile."

(column 7 lines 48-51, wherein leaf categories are presented based on scores)

As per claim 7, <u>Ortega</u> teaches "the item selection history of the user comprises

a history of items selected for downloading." (column 12 lines 20-28, wherein the item

history comprises purchase history)

As per claim 8, <u>Ortega</u> teaches "the item selection history is based solely on the

user's selections of items during browsing of the browse tree." (column 12 lines 20-28,

wherein item selection history comprises web activity data)

As per claim 9, <u>Ortega</u> teaches "incrementally updating the relative preference

profile of the user in response to new item selection events of the user." (column 15

lines 43-54, wherein the user score is initiated when a user performs actions)

As per claim 10, <u>Ortega</u> teaches "the relative preference profile is updated

substantially in real-time as the user interacts with the browse tree." (column 15 lines

43-54, wherein the user score is incremented as the user navigates the browse tree)

As per claim 15, Ortega teaches "a server system coupled to a communications network, said server system providing access to a browse tree in which items represented within a database are arranged within a hierarchy of item categories over multiple levels of item categories, said server system configured to maintain item selection histories for each user within a population of users;" (Figure 2 reference 220 and column 9 lines 46-57, "server components") "and a recommendation module coupled to the server system and configured to access the relative preference profile of the user to make personalized recommendations to the user based at least in-part on the relative preference profile." (Figure 2 reference 290, 292 and column 10 lines 32-45, "category popularity table" and "popular items table"). Ortega does not teach "an analysis module which analyzes at least the item selection histories to predict user affinities for specific item categories of the browse tree, wherein the analysis module additionally generates a relative preference profile for a given user by calculating differences between the user's predicted affinities for specific item categories of the browse tree and the population's predicted affinities for said item categories;"

Herz teaches "an analysis module which analyzes at least the item selection histories to predict user affinities for specific item categories of the browse tree, wherein the analysis module additionally generates a relative preference profile for a given user by calculating differences between the user's predicted affinities for specific item categories of the browse tree and the population's predicted affinities for said item categories;" (Figure 12 reference 1205, column 18 lines 49-55, column 19 line 17 – column 20 line 55, wherein a target object score for a user based on the selected user

feedback and relevant feedback from all users, based on the object's similarity to other

objects and the target's preferences based on other user's preferences). It would have

been obvious at the time of the invention for one of ordinary skill in the art to combine

Ortega's method of identifying an recommending nodes in a browse tree based on

previous historical actions with Herz's method of calculating interest in an object based

on a user's history and relevant feedback from all users of the system. This gives the

advantage of a recommendation system better able to recommend relevant items based

on user's personal history and a collective history. The motivation for doing so would be

to improve upon a recommendation system to be more precise and comprehensive in

representing a user's taste. (column 2 lines 16-28)

8.   Claims 2-3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Ortega et al. ("Ortega" US Patent 6,606,619 B2) in view of Herz ("Herz" US Patent

6,460,036 B1) and further in view of Ford et al. ("Ford" US Patent 6,963,867 B2).

        As per claim 2, Ortega and Herz disclose claim 1 above. Ortega and Herz do not

teach "assigning individual user history scores to specific categories comprises:

(a)determining an amount of credit to be distributed for an item selection event in which

the user selected an item; and (b) distributing said amount of credit among the item

categories under which the item falls, including item categories at multiple levels of the

browse tree". Ford teaches "assigning individual user history scores to specific

categories comprises: (a) determining an amount of credit to be distributed for an item

selection event in which the user selected an item; and (b) distributing said amount of

credit among the item categories under which the item falls, including item categories at

multiple levels of the browse tree." (column 18 lines 12-37 and column 22 lines 27-57,

wherein user actions determine the popularity score and the credits are assigned to top

level categories and the items in the category for better searches).

It would have been obvious at the time of the invention for one of ordinary skill in

the art to combine Ortega's method of identifying an recommending nodes in a browse

tree based on previous historical actions and Herz's method of calculating interest in an

object based on a user's history and relevant feedback from all users of the system with

Ford's method of assigning a score to a category and its descendants based on user

actions. This gives the advantage of a recommendation system better able to

recommend relevant items as well as a group of items. The motivation for doing so

would be to effectively present groups of items relevant to the user's interest, based on

past history. (column 1 lines 32-37)

As per claim 3, Ford teaches "repeating (a) and (b) for each of a plurality of

selection events while summing credit values assigned to like item categories."(column

23 lines 14-29, wherein the steps are repeated)

As per claim 16, Ortega and Herz disclose claim 15 above. Ortega and Herz do

not teach "the analysis module calculates the user's predicted affinities for the specific

item categories based at least in-part by distributing an amount of credit associated with

an item selection event among a plurality of item categories under which the selected

item falls within the browse tree". Ford teaches "the analysis module calculates the

user's predicted affinities for the specific item categories based at least in-part by

distributing an amount of credit associated with an item selection event among a

plurality of item categories under which the selected item falls within the browse tree."

(column 18 lines 12-37 and column 22 lines 27-57, wherein user actions determine the

popularity score and the credits are assigned to top level categories and the items in the

category for better searches).

It would have been obvious at the time of the invention for one of ordinary skill in

the art to combine Ortega's method of identifying an recommending nodes in a browse

tree based on previous historical actions and Herz's method of calculating interest in an

object based on a user's history and relevant feedback from all users of the system with

Ford's method of assigning a score to a category and its descendants based on user

actions. This gives the advantage of a recommendation system better able to

recommend relevant items as well as a group of items. The motivation for doing so

would be to effectively present groups of items relevant to the user's interest, based on

past history. (column 1 lines 32-37)

Response to Arguments

9.   Applicant's arguments, see page 9, filed 7/12/2006, with respect to the

rejection(s) of claim(s) 1-16 under 35 USC 102(e) have been fully considered and are

persuasive. Therefore, the rejection has been withdrawn. However, upon further

consideration, a new ground(s) of rejection is made in view of Herz (US Patent

6,460,036), cited in the IDS filed 7/17/2006, and Ford (US Patent 6,963,867 B2).

a.   In regards to the arguments stated for independent claims 1 and 15, the

Herz reference is used in a 35 USC 103(a) rejection to overcome the limitation of

calculating interest in an object based on a user's history and relevant feedback

from all users of the system. The motivation for doing so would be to improve

upon the recommendation system of Ortega to be more precise and

comprehensive in representing a user's taste, based on personal user history

and collective users history.

b.   In regards to the arguments for independent claim 11, the Ford reference

teaches all the limitations of the claims and the dependent claims and falls within

a 35 USC 102(e) rejection. This is in regards to the discussion during the

Examiner Interview on 6/6/2006, wherein it was determined that independent

claim 11 and dependent claims 12-14 are distinct inventions from claims 1-10

and 15-16. Since the argument indicates no choice as to which group is

cancelled, both groups are examined.

Conclusion

10.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Dangelino N. Gortayo whose telephone number is

(571)272-7204. The examiner can normally be reached on M-F 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tim T. Vo can be reached on (571)272-3642. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dangelino N. Gortayo   Tim T. Vo
Examiner   SPE

TIM VO
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